



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,470	09/16/2003	Jan-Erik Ekberg	4208-4148	9617
27123 7590 11/30/2007 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER HO, HUY C	
			ART UNIT	PAPER NUMBER
			2617	
			NOTIFICATION DATE	DELIVERY MODE
			11/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
Shopkins@Morganfinnegan.com
jmedina@Morganfinnegan.com

Office Action Summary	Application No. 10/662,470	Applicant(s) EKBERG, JAN-ERIK	
	Examiner Huy C. Ho	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/10/2007, with respect to the rejection(s) of claim(s) 1-44 under Arora (2004/0064568) and Atkinson et al. (2002/0012329) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nidd (2002/0120750) and further in view of Beck et al. (6,604,140), Hermann et al. (6,633,757) and Smith (2003/0006911).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-6, 9-17, 20-25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nidd (2002/0120750) and further in view of Beck et al. (6,604,140).

Consider claim 1, Nidd discloses a system for locating at least one target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting

at least one service, wherein each said at least one target device is one of said at least one device and the required service is one of said at least one service, comprising:

a memory device (section [1], disclosing computing devices); and
processor disposed in communication with the memory device (section [1]), the processor configured to:

conduct an inquiry of the ad-hoc communications network to discover at least one nearby peer device in said at least one device (sections [5], [7]), the inquiry software for providing application and service discovery (sections [5], [39]);

when the inquiry includes the indication that said at least one nearby peer device:

create a connection to said at least one nearby peer device (sections [5], [8]);

confirm whether the peer device (section [9]);

when the peer device:

send a service discovery request to the peer device (sections [12], [20], [60]-[61]); and

receive a response to the service discovery request, the response including distributed information (sections [12], [20], [42]),

wherein the distributed information includes at least one reference to the required service, an association between each reference and one of said at least one target device, and state information about said at least one target device (sections [42]-[43], [45]).

Nidd does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45)).

Consider claim 12, (Previously Presented) Nidd discloses a method for locating at least one target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein each said at least one target device is one of said at least one device and the required service is one of said at least one service (see the abstract), comprising:

conducting an inquiry of the ad-hoc communications network to discover at least one nearby peer device in said at least one device (**sections [5], [7]**), the inquiry including an indication that said at least one nearby device, being software for providing application and service discovery (**sections [5], [39]**);

when the inquiry includes the indication that said at least one nearby peer device:

creating a connection to said at least one nearby peer device (**sections [5], [8]**);

whether the peer device;

when the peer device:

sending a service discovery request to the peer device (**sections [12], [20], [60]-[61]**); and

receiving a response to the service discovery request, the response including distributed information (**sections [12], [20], [42]**),

wherein the distributed information includes at least one reference to the required service and an association between each reference and one of said at least one target device, and state information about said at least one target device (**sections [42]-[43], [45]**).

Nidd does not show middleware. Beck discloses middleware (**see the abstract, col 2 lines 45-55**).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (**see (col 1 lines 9-67, col 2 lines 1-45)**).

Consider claim 23, (Previously Presented) Nidd discloses a computer program product for locating at least one target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein each said at least one target device is one of said at least one device and the required service is one of said at least one service, comprising:

a computer readable medium storing:

program code for conducting an inquiry of the ad-hoc communications network to discover at least one nearby peer device in said at least one device (**sections [5], [7]**), the inquiry including an indication that said at least one nearby device, layer being software for providing application and service discovery (**sections [5], [39]**);

program code for creating a connection to said at least one nearby peer device (**sections [5], [8]**);

program code for confirming (**section [9]**);

program code for sending a service discovery request to the peer device (**sections [12], [20], [60]-[61]**); and

program code for receiving a response to the service discovery request, the response including distributed information (**sections [12], [20], [42]**),

wherein the distributed information includes at least one reference to the required service, an association between each reference and one of said at least one target device, and state information about said at least one target device (**sections [42]-[43], [45]**).

Nidd does not show middleware. Beck discloses middleware (**see the abstract, col 2 lines 45-55**).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to

discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45).

Consider claims 2, 13, (Original) The system of claims 1, 12, Nidd, as modified by Beck, further discloses wherein a density of said at least one nearby device over a coverage area for the ad-hoc communications network is high (sections [1], [19]).

Consider claims 3, 14, 24, (Original) The system of claims 1, 12, 23, Nidd, as modified by Beck, further discloses wherein the distributed information includes at least one information record, each information record including at least one of device information or application information (sections [42]-[43], [45]).

Consider claims 4, 15, (Original) The system of claims 3, 14, Nidd, as modified by Beck, further discloses wherein the device information includes state information, an address, a friendly name, a hop count, a sequence number, a time value, and a time counter (sections [42]-[43], [45]).

Consider claims 5, 16, (Original) The system of claims 3, 14, Nidd, as modified by Beck, further discloses wherein the application information includes an application identifier, capability information, version information, state information, an address, a hop count, a sequence number, a time value, and a time counter (sections [42]-[43], [45], [55]).

Consider claims 6, 17, 25, (Original) The system of claims 3, 14, 24, Nidd, as modified by Beck, further discloses wherein when the peer device includes the middleware layer, the processor is further configured to:

store the disclosed information in a portion of the memory device (sections [12]-[13]),
wherein the portion includes at least one record (sections [12]-[13]).

Consider claims 9, 28, (Original) The system of claims 1, 23, Nidd, as modified by Beck, further discloses wherein a portion of the memory device includes exchanged information that identifies at least one application or service that said at least one nearby device supports (sections [12], [20], [42]).

Consider claim 10, (Original) The system of claim 9, Nidd, as modified by Beck, further

discloses wherein when receiving an inquiry request from one of said at least one nearby device, the processor is further configured to:

distribute the exchanged information as part of a service discovery response (sections [12], [20], [42]).

Consider claims 11, 22, 30, (Original) The system of claims 1, 12, 23, Nidd, as modified by Beck, further discloses wherein when the peer device includes the middleware layer, the processor is further configured to:

establish a link connection to one of said at least one target device (sections [5], [8]); and
access the requested service (sections [13], [44]).

Consider claim 20, (Original) The method of claim 12, Nidd, as modified by Beck, further discloses wherein a portion of the memory device includes exchanged information that identifies at least one application or service that said at least one nearby device supports (sections [44]-[45]).

Consider claims 21, 29, (Original) The method of claims 20, 28, Nidd, as modified by Beck, further discloses wherein when receiving an inquiry request from one of said at least one nearby device, the method further comprises:

distributing the exchanged information as part of a service discovery response (section [62]).

5. Claims 31-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nidd (2002/0120750), in view of Beck et al. (6,604,140) and further in view of Hermann et al. (6,633,757).

Consider claim 31, (Previously Presented) Nidd discloses a system for locating a target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein the target device is one of said at least one device and the required service is one of said at least one service (the abstract), comprising:

a memory device (section [1], disclosing computing devices); and

a processor disposed in communication with the memory device (section [1], disclosing computing devices), the processor configured to:

maintain a distributed database to associate each said at least one service to at least one of said at least one device (section [13]);

conduct an inquiry of the ad-hoc communications network to discover at least one nearby device in said at least one device (sections [5], [7]), the inquiry including an indication that said at least one nearby device, layer being software for providing application and service discovery (sections [5], [39]); and

access the distributed database to determine whether said at least one nearby device includes the required service (sections [13], [44]).

Nidd does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45).

Nidd, modified by Beck, does not show maintain. Hermann discloses maintain (see the abstract, col 4 lines 36-52).

Since Nidd, Beck and Hermann teach method and system for devices and services discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, as modified by Beck, and have the device maintains a record and associates service information to other devices in an ad hoc network, taught by Hermann, to improve the service discovery as discussed by Hermann (see col 1 lines 5-67, col 2 lines 1-67, col 3 lines 1-67 and col 4 lines 1-35).

Consider claim 35, (Previously Presented) Nidd discloses a method for locating a target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein the target device is one of said at least one device and the required service is one of said at least one service (**the abstract**), comprising:

maintaining a distributed database to associate each said at least one service to at least one of said at least one device (**section [13]**);

conducting an inquiry of the ad-hoc communications network to discover at least one nearby device in said at least one device (**sections [5], [7]**), the inquiry including an indication that said at least one nearby device software for providing application and service discovery (**sections [5], [39]**);
and

accessing the distributed database to determine whether said at least one nearby device includes the required service (**sections [13], [44]**).

Nidd does not show middleware. Beck discloses middleware (**see the abstract, col 2 lines 45-55**).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (**see (col 1 lines 9-67, col 2 lines 1-45)**).

Nidd, modified by Beck, does not show maintain. Hermann discloses maintain (**see the abstract, col 4 lines 36-52**).

Since Nidd, Beck and Hermann teach method and system for devices and services discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, as modified by Beck, and have the device maintains a record and associates service information to other devices in an ad hoc network, taught by Hermann, to improve

the service discovery as discussed by Hermann (see col 1 lines 5-67, col 2 lines 1-67, col 3 lines 1-67 and col 4 lines 1-35).

Consider claim 39, (Previously Presented) Nidd discloses a computer program product for locating a target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein the target device is one of said at least one device and the required service is one of said at least one service (the abstract), comprising:

a computer readable medium storing:

program code for maintaining a distributed database to associate each said at least one service to at least one of said at least one device (section [13]);

program code for conducting an inquiry of the ad-hoc communications network to discover at least one nearby device in said at least one device (sections [5], [7]), the inquiry including an indication that said at least one nearby device, software for providing application and service discovery (sections [5], [39]); and

program code for accessing the distributed database to determine whether said at least one nearby device includes the required service (sections [13], [44]).

Nidd does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45).

Nidd, modified by Beck, does not show maintain. Hermann discloses maintain (see the abstract, col 4 lines 36-52).

Since Nidd, Beck and Hermann teach method and system for devices and services discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, as modified by Beck, and have the device maintains a record and associates service information to other devices in an ad hoc network, taught by Hermann, to improve the service discovery as discussed by Hermann (see col 1 lines 5-67, col 2 lines 1-67, col 3 lines 1-67 and col 4 lines 1-35).

Consider claim 42, (Previously Presented) Nidd discloses a system for locating a target device that supports a required service in an ad-hoc communications network connecting at least one device and supporting at least one service, wherein the target device is one of said at least one device and the required service is one of said at least one service (the abstract), comprising:

means for maintaining a distributed database to associate each said at least one service to at least one of said at least one device (section [13]);

means for conducting an inquiry of the ad-hoc communications network to discover at least one nearby device in said at least one device (sections [5], [7]), the inquiry including an indication that said at least one nearby device, software for providing application and service discovery (sections [5], [39]); and

means for accessing the distributed database to determine whether said at least one nearby device includes the required service (sections [13], [44]).

Nidd does not show middleware. Beck discloses middleware (see the abstract, col 2 lines 45-55).

Since both Nidd and Beck teach ad hoc and Bluetooth application for device detection and service discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, and have the middleware that enables a device to discover services, being taught by Beck to improve the method and system for devices to discover and user services, as discussed by Beck (see (col 1 lines 9-67, col 2 lines 1-45).

Nidd, modified by Beck, does not show maintain. Hermann discloses maintain (**see the abstract, col 4 lines 36-52**).

Since Nidd, Beck and Hermann teach method and system for devices and services discovery, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, as modified by Beck, and have the device maintains a record and associates service information to other devices in an ad hoc network, taught by Hermann, to improve the service discovery as discussed by Hermann (**see col 1 lines 5-67, col 2 lines 1-67, col 3 lines 1-67 and col 4 lines 1-35**).

Consider claims 32, 36, 40, 43, (Original) The system of claims 31, 35, 39, 42, Nidd, as modified by Beck and Hermann, discloses wherein the processor is further configured to:

establish a link connection with said at least one nearby device if the distributed database includes an association between said at least one nearby device and the required service (**Hermann, col 4 lines 36-67, col 5 lines 1-10**).

Consider claims 33, 37, (Original) The system of claims 32, 36, Nidd, as modified by Beck and Hermann, further discloses wherein the distributed database includes at least one reference to the required service and an association between said at least one reference and one of said at least one target device (**sections [43]-[44]**).

Consider claims 34, 38, 41, 44, (Original) The system of claims 31, 35, 39, 42, Nidd, as modified by Beck and Hermann, discloses wherein the processor is further configured to:

decline a link connection with said at least one nearby device if the distributed database indicates that said at least one nearby device does not include the required service (**Hermann, col 5 lines 9-15**).

6. Claims 7-8, 18-19 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nidd (2002/0120750), in view of Beck et al. (6,604,140) and further in view of Smith et al. (2003/0006911).

Consider claims 7, 18, 26, (Original) The system of claims 6, 17, 25, wherein when the portion of the memory device is full, to store the disclosed information, the processor is further configured to:

Nidd, as modified by Beck, further discloses identify an oldest record of said at least one record (sections 43]-[44]); and

a new information record from said at least one information record (sections 43]-[44]),

Nidd does not show overwrite the oldest record. Smith discloses overwrite old data (see sections [110], [113]).

Since both Nidd, Beck and Smith teach data communication network and devices and method thereof, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, modified by Beck, and have overwrite old data, taught by Smith, to improve the system discussed by Smith (see sections [2]-[7]).

Consider claims 8, 19, 27, (Original) The system of claims 6, 17, 25, wherein when the portion of the memory device is full, to store the disclosed information, the processor is further configured to:

Nidd, as modified by Beck, further discloses identify an old record of said at least one record (sections 43]-[44]);

identify a new information record from said at least one information record, the new information record being a replacement for the old record (sections 43]-[44]);

Nidd does not show overwrite the oldest record. Smith discloses overwrite old data (see sections [110], [113]).

Since both Nidd, Beck and Smith teach data communication network and devices and method thereof, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify teachings of Nidd, modified by Beck, and have overwrite old data, taught by Smith, to improve the system discussed by Smith (see sections [2]-[7]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600